



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,873	09/07/2006	Hiroyuki Shioiri	295710US3PCT	4713
22850 7590 04/15/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
PANG, ROGER L				
ART UNIT		PAPER NUMBER		
3655				
NOTIFICATION DATE		DELIVERY MODE		
04/15/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

### Office Action Summary

**Application No.**

10/591,873

**Applicant(s)**

SHIOIRI ET AL.

**Examiner**

Roger L. Pang

**Art Unit**

3655

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-62 is/are pending in the application.
- 4a) Of the above claim(s) 33-37, 53-58, 61 and 62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-31, 38-52 and 59 is/are rejected.
- 7) ☒ Claim(s) 32 and 60 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9-7-06 & 10-3-07
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The following action is in response to the election filed for application 10/591,873 on March 4, 2009.

#### ***Election/Restrictions***

Claims 33-37, 53-58, and 61-62 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 4, 2009.

#### ***Claim Objections***

Claim 47 is objected to because of the following informalities: on line 3, "deferential" should be replaced with --differential--. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 44, 47, 49, and 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claim 44, on line 3, the limitation of "the operating oil" lacks antecedent basis. With regard to claim 47, on line 2, the limitation of "the prime mover" lacks antecedent basis. With regard to claim 50, on line 2, the limitation of "the prime mover" lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 29-31, 52 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasuhiro '888 (from IDS). With regard to claim 29, Yasuhiro teaches a power transmission system having an input member 1 and an output member 2 for transmitting power, and an oil pump 4 for discharging oil by a relative rotation between a first rotary member 3 and a second rotary member, which is driven by the power transmitted between the input member and the output member, wherein: the input member and the first rotary member are connected with each other in a power transmittable manner, and the output member and the second rotary member are connected with each other in a power transmittable manner (Fig. 1); and comprising: a transmission member 3a for connecting the first rotary member and the second rotary member in a power transmittable manner; and a control valve 11 for controlling a power transmission state between the first rotary member and the second rotary member, by controlling an oil discharge condition of the oil pump. With regard to claim 30, Yasuhiro teaches the system, wherein: the oil pump is a radial piston pump comprising a piston 6 which is arranged in any one of the first rotary member and the second rotary member, and which acts radially in a direction perpendicular to a rotation axis of the first rotary member and the second rotary member. With regard to claim 31, Yasuhiro teaches the system, further comprising: a control means for controlling the discharge condition of the oil pump by controlling the control valve on the basis

of an operating condition of a vehicle (paragraph 79). With regard to claim 52, Yasuhiro teaches the system, further comprising: a prime mover for generating a driving force to run the vehicle, wherein power of the prime mover is transmitted from the input member to the output member, wherein the control valve comprises a port connected with an oil discharging passage of the oil pump (Fig. 1); and wherein the control means comprises a means for controlling a section area of the port of the control valve on the basis of a result of a comparison between an actual speed and a target speed of the prime mover (paragraph 80). With regard to claim 59, Yasuhiro teaches the system, further comprising: a controller for controlling the discharge condition of the oil pump by controlling the control valve on the basis of an operating condition of a vehicle (paragraph 79).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhiro as applied to claim 30 above. Yasuhiro teaches the system, wherein: the power of the prime mover is transmitted to the second rotary member through the first rotary member; the piston 6 is arranged in the second rotary member; the cam 3a is arranged in a circumferential direction of the first rotary member; and the piston moves radially in consequence of its rotational transfer in the circumferential direction of the cam resulting from the relative rotation between the first

rotary member and the second rotary member. Yasuhiro lacks the teaching of the piston being located in the first rotary member and the cam being arranged in the circumferential direction of the second rotary member. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yasuhiro to employ the output as the input and the input as the output (thereby changing the labels of the first and second rotary members) since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.

Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhiro as applied to claim 29 above, and further in view of Maki '275 (from IDS). Yasuhiro teaches the system, wherein: the control valve 11 comprises a spool with an action controlled by energizing a driver 18, and a port connected with an oil discharging passage of the oil pump; and a section area of the port is controlled by the action of the spool thereby controlling the oil discharge amount of the oil pump (Fig. 1). Yasuhiro lacks the teaching of said spool being actuated by a solenoid. Maki teaches a solenoid 151 as a valve actuating means. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yasuhiro to employ a solenoid actuator in further view of Maki in order to provide a simpler means to move said control valve.

Claims 29-31, and 38-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwase '492 in view of Yasuhiro. With regard to claim 29, Kashiwase teaches a power transmission system having an input member 2 and an output member 13 being connected via a torque converter 3, but lacks the teaching of a variable pump transmitting means. Yasuhiro teaches a power transmission system having an input member 1 and an output member 2 for

transmitting power, and an oil pump 4 for discharging oil by a relative rotation between a first rotary member 3 and a second rotary member, which is driven by the power transmitted between the input member and the output member, wherein: the input member and the first rotary member are connected with each other in a power transmittable manner, and the output member and the second rotary member are connected with each other in a power transmittable manner (Fig. 1); and comprising: a transmission member 3a for connecting the first rotary member and the second rotary member in a power transmittable manner; and a control valve 11 for controlling a power transmission state between the first rotary member and the second rotary member, by controlling an oil discharge condition of the oil pump. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kashiwase to employ a variable pump transmitting mechanism in view of Yasuhiro in order to provide greater control of rotational transmission. With regard to claim 30, Yasuhiro teaches the system, wherein: the oil pump is a radial piston pump comprising a piston 6 which is arranged in any one of the first rotary member and the second rotary member, and which acts radially in a direction perpendicular to a rotation axis of the first rotary member and the second rotary member. With regard to claim 31, Yasuhiro teaches the system, further comprising: a control means for controlling the discharge condition of the oil pump by controlling the control valve on the basis of an operating condition of a vehicle (paragraph 79). With regard to claim 38, Kashiwase teaches the system, further comprising: a transmission 4/5 to which the power of the output member of the oil pump is transmitted. With regard to claim 39, Kashiwase teaches the system, further comprising: a hydraulic control unit 100 for controlling the transmission. With regard to claim 40, Kashiwase teaches the system, wherein: the transmission comprises a hydraulic servo

mechanism, and the oil pressure or the flow amount of an operating oil to be fed to the hydraulic servo mechanism is controlled by the hydraulic control unit (Fig. 1). With regard to claim 41, Kashiwase teaches the system, wherein: the output member 13 functions also as an input shaft of the transmission. With regard to claim 42, Kashiwase teaches the system, further comprising: a prime mover 1 for generating a driving force to run the vehicle, and wherein the power of the prime mover is transmitted to the input member 2. With regard to claim 43, Kashiwase teaches the system, wherein: the prime mover is an engine 1; and the input member is a crankshaft 2 of the engine. With regard to claim 44, Kashiwase teaches the system, further comprising: a hydraulic control unit to which the operating oil is fed (Fig. 1). With regard to claim 45, Kashiwase teaches the system, further comprising: a hydraulic control unit to which the operating oil discharged from the oil pump is fed (Fig. 1). With regard to claim 46, Kashiwase teaches the system, further comprising: a hydraulic control unit (Fig. 1) to which the operating oil discharged from the oil pump is fed (via 50). With regard to claim 47, Kashiwase teaches the system, wherein: the power of a prime mover 1 for generating a driving force to run the vehicle is transmitted to a wheel 33 through the oil pump, the transmission, and a differential 6. With regard to claim 48, Kashiwase teaches the system, wherein the transmission comprises a forward/backward switching mechanism 4, and a continuously variable transmission 5. With regard to claim 49, Kashiwase teaches the system, wherein: the transmission comprises a forward/backward switching mechanism 4, and a continuously variable transmission 5.



***Allowable Subject Matter***

Claims 32, and 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Elias, Bigo, Gunsing and Niikura have been cited to show similar pump transmitting devices.

**FACSIMILE TRANSMISSION**

Submission of your response by facsimile transmission is encouraged. The central facsimile number is (571) 273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (571) 273-8300) on \_\_\_\_\_ (Date)

Typed or printed name of person signing this certificate:

\_\_\_\_\_  
\_\_\_\_\_

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roger L. Pang whose telephone number is 571-272-7096. The examiner can normally be reached on 5:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roger L Pang/  
Primary Examiner, Art Unit 3655

Roger L Pang  
Primary Examiner  
Art Unit 3655

April 10, 2009